

REMARKS

Applicants have carefully considered the June 26, 2007 Office Action, and the amendments above together with the comments that follow are presented in a bona fide effort to address all issues raised in that Action and thereby place this case in condition for allowance. Claims 1, 2 and 8-14 were pending in this application. In response to the Office Action dated June 26, 2007, claims 8-9 have been canceled and claims 1 and 14 have been amended. Adequate descriptive support for the present Amendment should be apparent throughout the originally filed disclosure as, for example, the depicted embodiments and related discussion thereof in the written description of the specification. Applicants submit that the present Amendment does not generate any new matter issue. Entry of the present Amendment is respectfully solicited. It is believed that this response places this case in condition for allowance. Hence, prompt favorable reconsideration of this case is solicited.

Claims 1, 2, 8 and 10-13 were rejected under 35 U.S.C. § 102(b) as being anticipated over Kubota et al. (U.S. Pat. App. Pub. No. 2002/0113241, hereinafter "Kubota"). Applicants traverse.

Kubota recites phthalocyanine compounds as an example of the fluorescent material. See numbered paragraph [0104]. However, Kubota fails to disclose a hole injection layer including a first hole injection layer made of copper phthalocyanine and a second hole injection layer made of fluorocarbon, as required in amended independent claim 1.

Claims 1, 2, 8 and 10-12 were rejected under 35 U.S.C. § 102(e) as being anticipated over Bazan et al. U.S. Pat. App. Pub. No. 2002/0142206, hereinafter "Bazan". Applicants traverse.

Bazan, at numbered paragraph [0051], recites a phthalocyanine compound as a material for the hole injection layer, and a carbon-based halide fluorocarbon of 2, 2', 7, 7'-tetrakis (diphenylamino)-9,9'-spirobifluorene as the hole-transporting material. See numbered

paragraphs [0045] – [0046]. However, Bazan fails to disclose a hole injection layer including a first hole injection layer made of copper phthalocyanine and a second hole injection layer made of fluorocarbon, as required in amended independent claim 1.

The above argued differences between the claimed device of independent claim 1 undermines the factual determination that Bazan or Kubota discloses the subject matter identically corresponding to that claimed. *Minnesota Mining & Manufacturing Co. v. Johnson & Johnson Orthopaedics Inc.*, 976 F.2d 1559, 24 USPQ2d 1321 (Fed. Cir. 1992); *Kloster Speedsteel AB v. Crucible Inc.*, 793 F.2d 1565, 230 U.S.P.Q. 86 (Fed. Cir. 1986). Applicants, therefore, submit that the imposed rejections under 35 U.S.C. § 102 for lack of novelty as evidenced by Bazan or Kubota are not factually viable and, hence, solicit withdrawal thereof.

Claim 9 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Bazan in view of Yu et al., *Journal of Applied Physics*, vol. 89, No. 4, pp 2343-50 (Feb. 15, 2001), hereinafter “Yu”. Applicants traverse. Claim 9 has been cancelled and, therefore, the rejection is moot.

Claim 9 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Kubota in view of Yu et al., *Journal of Applied Physics*, vol. 89, No. 4, pp 2343-50 (Feb. 15, 2001), hereinafter “Yu”. Applicants traverse. Claim 9 has been cancelled and, therefore, the rejection is moot.

Moreover, Yu only recites that CuPc enhances the injection of holes. See Abstract and page 2347; column 1, line 14).

Claims 1, 2, 8, 9 and 14 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Sakakura et al. (U.S. Pat. App. Pub. No. 2002/0153831, hereinafter “Sakakura”) in view of Bazan. Applicants traverse.

Sakakura, at numbered paragraph [0106] recites that the hole injection layer is formed of copper phthalocyanine. Bazan, at numbered paragraph [0051], recites a phthalocyanine

compound as a material for the hole injection layer, and a carbon-based halide fluorocarbon of 2, 2', 7, 7'-tetrakis (diphenylamino)-9,9'-spirobifluorene as the hole-transporting material. See numbered paragraphs [0045]-[0046]. However, the combination of Bazan and Sakakura fails to disclose a hole injection layer including a first hole injection layer made of copper phthalocyanine and a second hole injection layer made of fluorocarbon.

Moreover, Applicant submits that there exists potent indicia of nonobviousness regarding the present claimed subject matter. As disclosed in the present specification (16, line 24 to page 18, line 7 and Table 1), the effects brought out from the stacked structure of the first hole injection layer including the phthalocyanine-based compound and the second hole injection layer including the fluorocarbon are described in Table 1 on page 17 of the specification of the present application. For the Examiner's convenience, Applicant has reproduced this section of the specification below.

Table 1

	first hole injection layer material	second hole injection layer material	initial drive voltage (V)	voltage increases after photoirradiation(V)
Comparative Example 1	CuPu	-	9.0	0.3
Comparative Example 2	-	CF _x	6.0	2.0
Inventive Example 1	CuPu	CF _x	6.1	0.5

As shown in Table 1, the initial drive voltages of the organic EL devices in Inventive Example 1 and Comparative Example 2 are reduced as compared with that of the organic EL device in the Comparative Example 1. Further, the voltage increases after irradiation of the organic EL devices in Inventive Example 1 and Comparative Example 1 are reduced as compared with that of the organic EL device in Comparative Example 2.

It can be seen, therefore, that in the organic EL device in Comparative Example 1 with only the first hole injection layer 3a made of CuPc, reduction in the initial drive voltage was not realized, while in the organic EL device in Comparative Example 2 with only the second hole injection layer 3b made of CFX, reduction in the voltage increase after photoirradiation was not realized.

On the other hand, in the organic EL device in Inventive Example 1 with the first hole injection layer 3a and second hole injection layer 3b, reductions in the initial drive voltage and voltage increase after photoirradiation were realized. Thus, unexpected effects are provided by a combination of the first hole injection layer made of copper phthalocyanine and the second hole injection layer made of fluorocarbon.

Claim 14 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Bazan in view of Xi et al. (U.S. Pat. No. 6,211,065, hereinafter "Xi"). Applicants traverse.

Claim 14 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Kubota in view Xi. Applicants traverse.

Applicants incorporate herein the arguments previously advanced in traversal of the rejections under 35 U.S.C. § 102 predicated upon Bazan and Kubota. The secondary reference to Xi does not cure the argued deficiencies of Bazan or Kubota. Xi merely recites a method of making a thin fluorocarbon film using plasma-enhanced CVD. See col. 2, lines 16 to 30 and column 4, lines 12 to 29. Thus, even if the applied references are combined as suggested by the Examiner, the claimed subject matter of independent claim 14 will not result. *Uniroyal, Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 5 USPQ2d 1434 (Fed. Cir. 1988).

Moreover, Applicants incorporate herein their previous arguments regarding the unexpected effects provided by a combination of the first hole injection layer made of copper

phthalocyanine and the second hole injection layer made of fluorocarbon, as required in amended claim 14. Accordingly, reconsideration and withdrawal of the rejection is solicited.

It is believed that all pending claims are now in condition for allowance. Applicants therefore respectfully request an early and favorable reconsideration and allowance of this application. If there are any outstanding issues which might be resolved by an interview or an Examiner's amendment, the Examiner is invited to call Applicants' representative at the telephone number shown below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

McDERMOTT WILL & EMERY LLP



Brian K. Seidleck
Registration No. 51,321

600 13th Street, N.W.
Washington, DC 20005-3096
Phone: 202.756.8000 BKS:idw
Facsimile: 202.756.8087
Date: December 21, 2007

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